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10/079,755

02/19/2002

Narayan L. Gehlot

Gehlot 36 (375824/0169)

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11/03/2004

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EXAMINER

PHU, SANH D

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 11/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/079,755

Applicant(s)

GEHLOT, NARAYAN L.

Examiner

Sanh D Phu

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 is/are allowed.
- 6) ☒ Claim(s) 13-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. There is no claim 19. Correction is required.

Claim Rejections – 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13–18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costas (4,349,915).

–Regarding to claim 13, see figures 1, 10, 11P and 16, and col. 4, line 45 to col. 22, line 58, Costas discloses a system comprising

a receiver (3) (see figure 10) adapted to be in a communication with a transmitter (figure 1) so as to enable the receiver to capture data packets of a wireless data transmission, the transmitter associating each of the data

packets of the wireless data transmission with a time "propagation delay" and spatial value "Doppler shift"; and

a processor (all elements of figure 10 except (3,2,1) wherein the processor is operative with programming to iteratively compare the time and spatial values of each captured data packet to the respective time and spatial values of a stored data packet (DATA) stored in means (106) (see figure 10), which can considered as a replica of a non-reflective packet, such that the processor can determine whether each captured data packet is reflective or non-reflective.

Costas does not disclose the communication between the transmitter and the receiver is occurred in a wireless medium. However, he teaches that his invention can be applied for communications in mediums of interest (see col. 4, line 41-44). Therefore, for an application, it would have been obvious for a person skilled in the art to implement Costas invention in a wireless communication without affecting the overall system performance.

Costas does not disclose a memory interconnected with the receiver to store the captured data packets. However, storing data in a memory in order

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to retrieve the data at a desired time is well-known in the art, and the Examiner takes Official Notice. Since the captured data packets are to be detected by detection means (10-19) of the processor, it would have been obvious for a person skilled in the art to store the captured data packets in a memory in order to retrieve them at a desired time to be inputted to the detection means for the detection in-time.

-Regarding to claim 14, as applied for claim 13, it would have been obvious for a person skilled in the art, within his skills, to implement the memory comprising a plurality of memory partitions and to implement the memory to store each data packet (Vout) (see figure 1) determined to be non-reflective is stored in a separate one of the memory partitions, if desired or required by his system requirement, without affecting the overall system performance.

-Regarding to claim 15, Costas discloses that each data packet determined by the processor to be reflective is matched to a corresponding one of the non-reflective data packets (see figure 2B). And, as applied for claims 13 and 14, it

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would have been obvious for a person skilled in the art to aggregate in the memory partition to store the matched non-reflective data packet, if desired or required by his system requirement, without affecting the overall system performance.

-Regarding to claim 16, each data packet determined to be reflective is inherently destroyed by the processor since the processor only produce recovered data packets as non-reflective data packets (see figure 2M).

-Regarding to claim 17, Costas discloses that the time value is coded in a bit format (see figure 2A).

-Regarding to claim 18, Costas discloses that the time value is modulated as part of a carrier signal associated with the wireless data transmission (see figure 2A).

-Regarding to claim 20, Costas discloses that the processor analyzes the respective spatial values of the stored non-reflective data packets such that movement "Doppler information" of the transmitter relative to the receiver can be monitored (see figures 10 and 16).

Allowable Subject Matter

4. Claims 1-12 are allowed.

Regarding to claim 1, none of the prior art of record teaches or suggests a method of reducing multipath interference in a wireless data transmission, the method comprising the steps of:

capturing a plurality of data packets associated with the wireless data transmission, each of the data packets being associated with a time value, and wherein some of the data packets being captured are non-reflective packets and some are reflective packets;

determining whether each captured data packet is reflective or non-reflective by:

comparing the time value of the captured data packet to the time value of each stored non-reflective packet;

identifying the captured data packet as non-reflective, when the time value of the captured packet is different from the time value of each stored non-reflective packet; and

identifying the captured data packet as reflective, when time value of the

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captured packet is identical to the time value of any stored non-reflective packet; and

repeating the determining step for each subsequently captured data packet.

Regarding to claim 11, none of the prior of record teaches or suggests method of reducing multipath interference in a wireless data transmission being comprised of a plurality of data packets, each of the data packets being associated with a time value, the method comprising:

storing a first received data packet of the data transmission in a first memory partition;

comparing the time value of a second received data packet with the time value of the first received data packet;

designating the second received data packet as reflective, if the respective time values of the first and second received data packets are identical, or designating the second received data packet as non-reflective, if the respective time values of the first and second received data packets are different;

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comparing the time value of a third received data packet with the respective time values of the first and second received data packets; and designating the third received data packet as reflective, when the time values of either the first and third received data packets or second and third received data packets are identical, and designating the third received data packet as non-reflective, when the time values of both the first and second received data packets are different from the time value of the third received data packet.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D Phu whose telephone number is (703)305-8635. The examiner can normally be reached on 8:00-16:30.

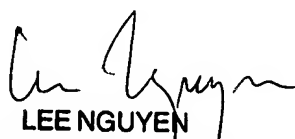
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-301-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sanh D.Phu
Examiner
Art Unit 2682

SP.


LEE NGUYEN
PRIMARY EXAMINER